PROC. BIOL. SOC. WASH.
94(2), 1981, pp. 458–461

FIRST DESCRIPTION OF THE MALE OPPOSUM SHRIMP, *HETEROMYSIS BERMUDENSIS BERMUDENSIS* (CRUSTACEA: MYSIDACEA)

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Abstract.—Some characters of *Heteromysis bermudensis bermudensis* are described and illustrated, from Bermudan specimens. Differences in the pleopod 4 support Bačescu's (1968) recognition of a subspecies, *H. b. cesari,* for Cuban specimens.

The opossum shrimp, *Heteromysis bermudensis* Sars, 1885, has been referred to by 6 different authors, but because of scanty material, it remains inadequately characterized. In particular, the ♂ of the typical subspecies is unknown. Sars (1885) had only a single ♀ with all the legs broken off. Verrill (1923) had an unspecified number of specimens, presumably collected by his students and him in 1898 and 1901, since the color in life was noted. Tattersall (1951) had 2 "rather badly damaged" ♀♀ (an understatement!), USNM 82388, collected in 1876–77 by G. Brown Goode. Clarke (1955) also examined these damaged ♀♀ in addition to unspecified "fresh material." Bačescu (1968) had 4 ♂♂ and Brattegard (1973) 1 ♀.

The Sars, Verrill, and Clarke specimens came from Bermuda. Bačescu's ♂♂, from Cuba, were assigned to a new subspecies, *H. b. cesari,* recently reported also from the Saba Bank by Brattegard (1980). Brattegard's (1973) ♀, from Colombia, was identified as *H. bermudensis,* and presumably belongs to the typical subspecies. The latter was called *H. b. typica* by Bačescu, but in accordance with ICZN Art. 47a the name should be *H. b. bermudensis.*

For the present study I have had available 41 ♂♀ from Hamilton Harbor, Bermuda, washed from algae and a sponge collected at depths of 2–6 feet by Lanelle W. Peterson, 13 August 1961.

Because the ♂ of *H. b. bermudensis* was unknown, Bačescu was unable to employ the useful ♂ secondary sexual characters in distinguishing the subspecies. In *Heteromysis,* as discussed in detail by Tattersall (1967), pleopods 2, 3, and especially 4 may be modified in the ♂, thereby providing valuable taxonomic characters. The characters used by Bačescu in a table comparing the subspecies are size, number of spines on the margin and in the sinus of the telson, color, length of the scale of antenna 2, and shape of eyes. A discussion of these follows:

Size: *H. b. cesari* is smaller (total length 4.0–4.2 mm) than *H. b. ber-*

mudensis. Sars' holotype measured 6 mm; Verrill and Clarke reported 6–8 and 7–9 mm respectively for their specimens. However, Brattegard's ♀ was only 4.6 mm, and the Peterson specimens are 4.5–4.8 mm, not much larger than *H. b. cesari*.

Marginal spines of telson: Including the 2 apical spines, *H. b. bermudensis* has 8 (Sars, Brattegard), 7–9 (Clarke), 8–9 (Peterson specimens); *H. b. cesari* has 8 (Bačescu listed 6, but did not include the 2 apical spines).

Spines in sinus of telson: *H. b. bermudensis* has 18 (Sars), 18–20 (Clarke), 16 (Brattegard), 15–16 (Peterson specimens); *H. b. cesari* has 14 (figures given in Bačescu's table are reversed).

Length of scale of antenna 2: According to Bačescu, in *H. b. bermudensis* the scale extends beyond the endopod peduncle and in *H. b. cesari* the scale is shorter than the peduncle. But Sars described the scale as "exceedingly small, scarcely as long as the antennular peduncle," I believe "antennular" is a lapsus for "antennal," for in Sars' pl. 38, figs. 1 and 2, the scale just reaches the end of the antennal peduncle, but is much shorter than the antennular peduncle. The apparent lengths of the antennal peduncle and scale depend to some extent upon the angle at which they are viewed and upon whether or not there is distortion from cover glass pressure.

Sars noted a distal segment in the antennal scale. Bačescu showed a distal segment in his figure of the head region but not in his more enlarged figure of antenna 2, and remarked, ". . . on ne distingue pas clairment d'article apical." Brattegard found no distal segment in his Colombian specimens, but it is clearly present in the Peterson specimens (Fig. 1c).

Eyes: Bačescu referred to the eyes of *H. b. bermudensis* as more or less cylindrical and to those of *H. b. cesari* as irregularly globular. This distinction is not clearly evident from a comparison of the figures of Sars, Bačescu, and Brattegard, but other differences are apparent. In *H. b. cesari* the cornea occupies nearly half of the eye, in *H. b. bermudensis* only ⅓. Also, the small concavity in the proximolateral part of the cornea in *H. b. cesari* has not been observed in *H. b. bermudensis*.

The above discussion suggests that most of the criteria used by Bačescu to distinguish the 2 subspecies either overlap or differ slightly, and hence are of questionable reliability. Because the ♂ of *H. b. bermudensis* was unknown, Bačescu was unable to use ♂ secondary sexual characters. However, we can now add to Bačescu's criteria the anatomy of the ♂ pleopod 4, which differs in the 2 subspecies as follows:

Spines/setae	*H. b. bermudensis*	*H. b. cesari*
Lateral margin	2	0
Medial margin, proximal to pseudobranchial lobe	1	0
Anterior surface	6	2
Distal margin	ca 35, with flagellum	26–30 without flagellum

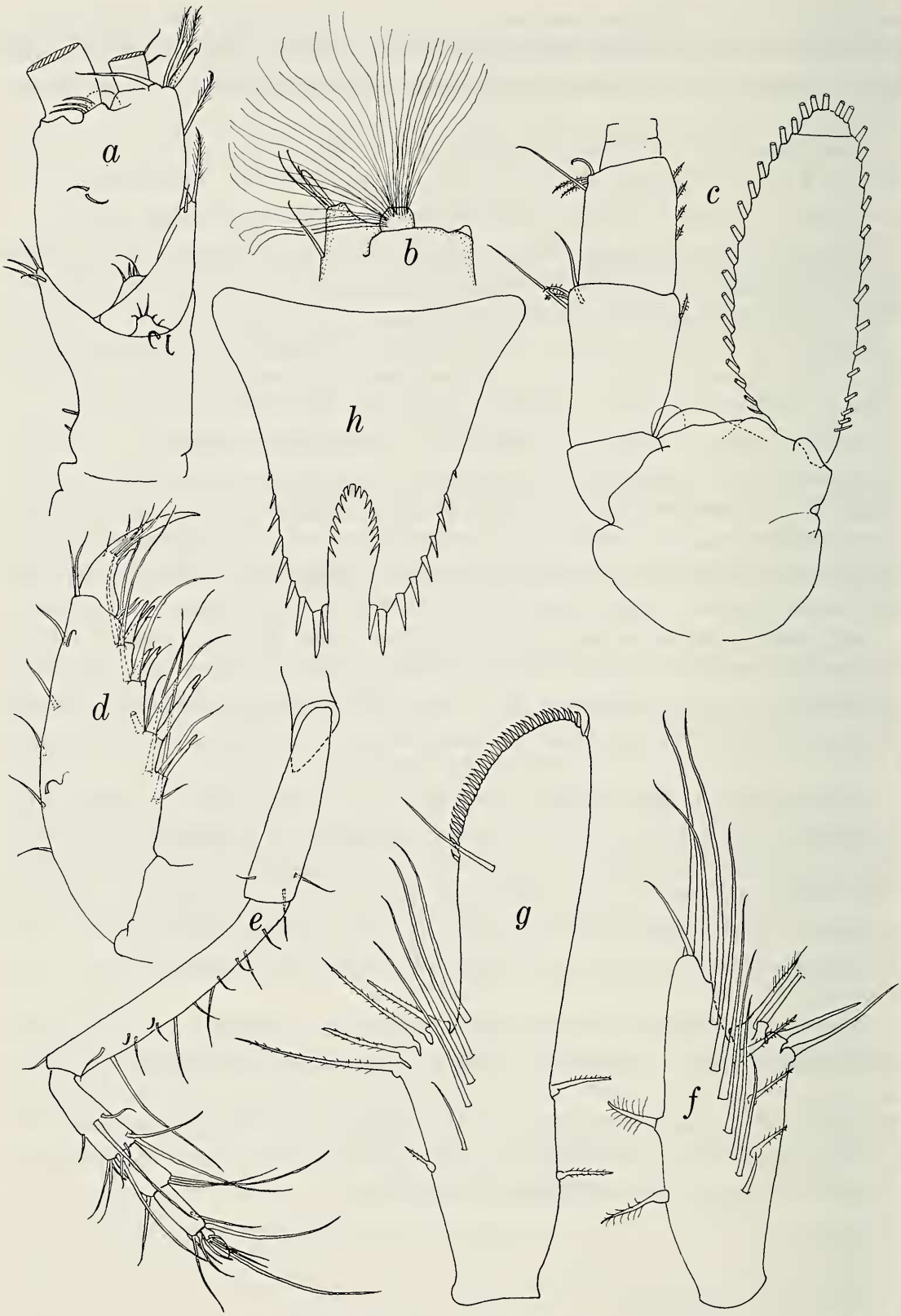

Fig. 1. *Heteromysis bermudensis bermudensis*: a, ♂ Antenna 1, sympod, dorsal; b, Distal end of antenna 1 sympod, ventral, showing ♂ lobe; c, ♂ antenna 2; d, Thoracic endopod 3, distal segments; e, Thoracic endopod 4; f, Pleopod 3, ♂; g, Pleopod 4, ♂; h, Telson.

These differences, together with those of the eyes, seem sufficient to support recognition of the 2 subspecies. Indeed, Bačescu remarked that if differences in the ♂ pleopod 4 should be found, the Cuban form would merit recognition as a full species. I quite agree, but believe this step should be deferred until pleopod 4 of ♂♂ of other populations can be examined for variability.

In other respects the Peterson specimens agree well with the Colombian ♀ described by Brattegard except for the presence of a distal segment in the scale of antenna 2. The ♂ lobe of antenna 1 is very short and densely covered with fine setae (Fig. 1b). The carpopropus of thoracic endopod 4 is 3–4 segmented (Fig. 1e); those of endopods 5–8 are 5–7-segmented. Sexual dimorphism of the pleopods is found only in pleopod 4 (Fig. 1g).

Acknowledgments

I am grateful to Austin B. Williams for reviewing the manuscript.

Literature Cited

Bačescu, Mihai. 1968. *Heteromysini* nouveaux des eaux Cubaines: Trois espèces nouvelles de *Heteromysis* et *Heteromysoides spongicola* n.g. n. sp.—Revue Roumaine de Biologie, seria Zoologie (13)4:221–237.

Brattegard, Torleiv. 1973. Mysidacea from shallow water on the Caribbean coast of Colombia.—Sarsia 54:1–66.

———. 1980. *Platymysis facilis* gen. et sp. nov. (Crustacea: Mysidacea: Heteromysini) from the Saba Bank, Caribbean Sea.—Sarsia 65:49–52.

Clarke, William D. 1955. A new species of the genus *Heteromysis* (Crustacea, Mysidacea) from the Bahama Islands, commensal with a sea-anemone.—American Museum Novitates, No. 1716:1–13.

Sars, G. O. 1885. Report on the Schizopoda collected by H. M. S. Challenger during the years 1873–76.—Report on the Scientific Results of the Voyage of H. M. S. *Challenger* during the Years 1873–76, Zoology 13(37):1–228, pls. 1–38.

Tattersall, Olive S. 1967. A survey of the genus *Heteromysis* (Crustacea: Mysidacea) with descriptions of five new species from tropical coastal waters of the Pacific and Indian Oceans, with a key for the identification of the known species of the genus.—Transactions of the Zoological Society of London 31:157–193.

Tattersall, Walter M. 1951. A review of the Mysidacea of the United States National Museum.—United States National Museum Bulletin 201:I-X + 1–292.

Verrill, A. E. 1923. Crustacea of Bermuda. Schizopoda, Cumacea, Stomatopoda and Phyllocarida.—Transactions of the Connecticut Academy of Arts and Sciences 26:181–211, pls. 49–52.

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